

New report highlights global strategies for accelerating AI in science and research

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Credit: International Science Council Regional Focal Point for Asia and the Pacific

A comprehensive analysis of the integration of artificial intelligence in science and research across various countries addresses both the

advancements made and the challenges faced in this field.

While advancements in AI have huge implications for national R&D systems, very little is known about how governments plan to accelerate the uptake of AI by science and [research institutions](#). In the [report](#), "Preparing National Research Ecosystems for AI: Strategies and Progress in 2024," the International Science Council's Center for Science Futures addresses this knowledge gap by presenting a review of the existing literature on this topic, as well as a series of country case studies.

This working paper provides new insights and resources from countries from all regions of the world, at various stages of integrating AI into their research ecosystems:

- Australia: Preparing for human-centric use of artificial intelligence
- Benin: Anticipating the impacts of artificial intelligence on West Africa's aspiring digital services hub
- Brazil: Reaping the benefits of artificial intelligence with some cautionary notes
- Cambodia: Seeking artificial intelligence approaches to national research missions
- Chile: Finding possibilities to apply artificial intelligence in an existing research financing ecosystem
- China: Promoting the Artificial Intelligence for Science approach
- India: Gaining insights into transformative technologies and their social integration
- Malaysia: Enabling the Fourth Industrial Revolution
- Mexico: Creating a national lead agency for artificial intelligence
- Oman: Fostering innovation through an Executive Program
- Uruguay: Following a roadmap to prepare national science

systems for artificial intelligence

- Uzbekistan: Building the right conditions and skills for [artificial intelligence](#)

Country-based experts who authored the case studies are at the forefront of integrating AI into their national science systems shaping the future of innovation and discovery.

"It's tempting to focus on the experiences of the usual AI powerhouses, but hardly any other country can emulate the U.S. or China when it comes to AI or the size of their research ecosystems.

"This paper, however, provides visions of the ambitions, achievements and challenges ahead worldwide. It will be useful to [decision-makers](#) from a much larger pool of countries," shared one of the co-authors Nurfadhlin Mohd Sharef, from the Academy of Sciences Malaysia.

The paper not only serves as a critical source of first-hand information—it makes an urgent call for continued discussion and collaboration between countries as they introduce AI in their research priorities.

"This is the beginning of a conversation. Our ambition with this paper is not only to document current initiatives, but also support the collective journey to better prepare for this critical technological transformation of science systems. Ultimately, this is about making sure that AI works for science," says Mathieu Denis, Senior Director of the International Science Council and Head of the ISC Center for Science Futures.

In the coming months, the ISC Center for Science Futures will continue engaging with experts from different countries around the world, seeking feedback and recommendations for additional countries to include in the follow up version of the paper, coming out in the second

half of 2024.

This effort reflects the growing recognition of AI's transformative potential in the scientific community and the need for informed, collaborative strategies to harness its benefits in and for science.

More information: Preparing National Research Ecosystems for AI: Strategies and progress in 2024. council.science/publications/ai-science-systems/

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